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Remarks on a Japanese Bat, *Vespertilio macrodactylus* Temminck

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A bat of the genus *Myotis* from Japan was described by Temminck in 1839 as *Vespertilio macrodactylus*. In Siebold's Fauna Japonica, Temminck and Schlegel repeat almost verbatim the original description of Temminck in his monograph. Peters later stated that it closely resembled *V. capaccinii* and it was synonymized by Dobson with this species. Trouessart considered *macrodactylus* a subspecies of *capaccinii*. Thomas revived the name in 1905 when he received eight specimens from Japan and also refuted Peters' statement that it resembled *capaccinii*. Kuroda suggested in 1935 that it was a subspecies of *daubentonii*. In 1938 he gave numerous references to Japanese specimens but these are in Japanese and only one is available. Tate took Temminck's measurement of the forearm "1 pouce 3 lignes" to equal 32 mm., and stated that *macrodactylus* "may well belong with *hasseltii* and *macellus*."

The Chicago Natural History Museum has recently received a series of 37 specimens (12 males, 25 females) of *Myotis* from Sawada, Miyagi Prefecture, Honshu Island, Japan collected by Dr. A. J. Nicholson and Seuchi Sakai. The identification of these, which agrees with Temminck's description of *macrodactylus*, has led to a study of the history of this form.

The color in this series is a slate black above which was described by Temminck as "noir enfumé." The ends of the hairs on the underside are grayish white and the bases slate black. The exact measurement of the forearm is the only discrepancy. Temminck gave the forearm as "1 pouce 3 lignes." The Encyclopaedia Britannica states that a pouce equals 27.07 mm. and 1 ligne equals 2.26 mm. which makes the forearm 33.85 mm. However, Temminck stated that *macrodactylus* was the size of "*Vespertilion daubentonii* d' Europe" and Miller gives the forearm measurement of *daubentonii* as 35 to **38 mm.** Thomas reported 36 mm. for one male *macrodactylus*. In Temminck's drawing the forearm is about **36 mm.** This measurement in the present

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series is 36.6-38.3 mm. in males and 36.0-39.2 in females. It seems safe to assume, then, that 32 mm. is not the correct measurement and that 36.0 to 39.2 mm. is really the size of the forearm in this form.

Temminck compared it with *daubentonii*, Thomas stated that it was allied to *daubentonii*, and Kuroda listed it as a questionable subspecies of *daubentonii*. This series agrees with Tate's key, "Wing to side of metatarsus, P3 for the most part in the toothrow." Compared with alcoholic specimens of *daubentonii* from England and Italy the ear is longer and slightly narrower. The skull differs little, except in size, from *M. daubentonii* and *M. d. ussuriensis*. Temminck's *macroductylus* is the oldest name for the large footed *Myotis* of Japan and it is here considered as a subspecies of *daubentonii*.

The synonymy of this subspecies is:

***Myotis (Leuconoe) daubentonii macroductylus* Temminck**

Vespertilio macroductylus Temminck, 1839, Monog. Mamm., 2: 231, pl. 58, fig. 3-5; Temminck and Schlegel, 1842, in Siebold's Fauna Japonica, Mamm., p. 16; Peters, 1866, Monatsber. Akad. Wiss. Berlin, p. 681; Dobson, 1878, Cat. Chirop., p. 294 (syn. of *Capaccinii*).

Vespertilio (Leuconoe) Capaccinii macroductylus Trouessart, 1897, Cat. Mamm., 1: 124.

Myotis (Leuconoe) Capaccinii macroductylus Trouessart, 1904, Cat. Mamm., Quin.

Supple. p. 90.

Myotis (Leuconoe) macroductylus Thomas, 1905, Proc. Zool. Soc. London, 21: 337-Kiusiu.

Myotis (?*daubentonii*) *macroductylus* Kuroda, 1935, Botany and Zool., 4: 75—Hondo (in Japanese); Kuroda, 1938, List Japanese Mamm., p. 95—South Kuriles, Hondo, Shikoku, Kiusiu (other ref. cited but all in Japanese and not available).

Myotis (Leuconoe) macroductylus Tate, 1941, Bull. Amer. Mus. Nat. Hist., 78: 542, 551, 559.

Measurements. Forearm 36.0-39.3 mm. Smallest and largest males and females: forearm 36.6, 38.3 mm., 36.0, 39.2 mm. Tail 37.9, 37.5, tip beyond membrane 1.8, 1.5, tail 39.9, 39.9, tip beyond membrane 2.1, 2.0; tibia 16.0, 16.0, 16.3, 16.2; foot 10.2, 9.4, 10.9, 10.4; ear from meatus 16.0, 15.0, 15.0, 15.0; tragus 8.0, 8.0, 7.0, 7.0; third metacarpal 33.6, 33.9, 34.3, 36.2, first phalanx 11.7, 11.6, 11.0, 11.9, second phalanx 8.9, 9.3, 9.0, 9.7, tip 7.9, 6.3, 6.0, 7.5; fourth metacarpal 32.3, 32.9, 32.9, 34.8, first phalanx 9.4, 8.8, 9.2, 9.3, second phalanx 8.0, 6.5, 6.9, 7.4, tip 2.5, 1.9, 3.0, 2.9; fifth metacarpal 31.8, 32.3, 31.1, 34.1; first phalanx 8.8, 8.2, 8.9, 8.4, second phalanx 6.1, 6.5, 6.1, 5.7, tip 2.9, 2.8, 3.0, 3.6.

Skulls of smallest and largest males and females: greatest length 15.2, 15.2, 15.2, 15.6; condylobasal length 13.9, 14.0, 14.0, 14.4; greatest length of palate 6.4, x, 6.4, 6.6; interorbital breadth 3.9, 3.8, 3.7, 3.9; zygomatic breadth 9.0, 9.0, 9.0, 9.4; mastoid breadth 7.6, 7.5, 7.6, 7.9; breadth of brain case

7.7, 7.6, 7.4, 7.7; upper tooth row C-M3 5.7, 5.6, 5.6, 5.8; across bases of canines 3.9, 4.1, 4.0, 4.0; across outside edges of last molar 5.9, 6.1, 6.0, 6.1.

Available for comparison with this series of *macrodactylus* are two adults of *M. d. ussuriensis* Ognev from Korea, and three specimens of *Myotis* from the Kurile Islands. These are all some shade of brown and are not black as in *macrodactylus*. The forearms measure 37.1 to 38.9 mm. There are but two incomplete adult skulls from Korea which are about the same size and with the same length of tooth row as *macrodactylus*. From measurements given by Ognev (1927, p. 146) and Kuroda (1936, p. 45) for *ussuriensis*, it is the same size as the present series of *macrodactylus* and differs from it in being brown instead of black.

The three specimens from the Kurile Islands have forearms of 36.8-37.5 mm. but the skulls are small, equalling the minimum of, or being slightly less than, measurements given by Ognev for *ussuriensis*. There is not sufficient material available at present to establish the variation in the range of *macrodactylus* or to determine in what characters other than color *ussuriensis* differs from it.

Literature Cited

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1939 Mammal fauna of Manchoukuo preserved in the collection of Marquis Yamashina. Bull. Biogeograph. Soc. Japan, vol. 9, no. 1, p. 1-50.
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1927 A synopsis of the Russian bats. Journ. Mamm., vol. 8, p. 140-157.

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